What's New for LiveCycle® ES

Adobe® LiveCycle® ES

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Adobe® LiveCycle® ES (8.0) What's New for LiveCycle ES for Microsoft® Windows®, Linux®, and UNIX®

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What's New for LiveCycle ES

Adobe® LiveCycle® ES (Enterprise Suite) introduces many new features that improve the way you create and deploy customer engagement applications.

LiveCycle ES is comprised of a single installer, a foundation layer, and a series of solution components. The single installer allows installation of multiple solution components based on your product license key. All solution components are deployed on a common architecture layer commonly known as LiveCycle Foundation.

The solution components either represent functionality that was available in LiveCycle 7.x products or combine functionality from different LiveCycle 7.x products in addition to new functionality added in LiveCycle ES. For example, the LiveCycle Forms ES solution component includes functionality that was previously available in separate products, namely, LiveCycle Forms 7.x and LiveCycle Assembler 7.x. In addition, LiveCycle Process Management ES includes features that were available in LiveCycle Workflow 7.x and LiveCycle Form Manager 7.x.

This document outlines the new features introduced in LiveCycle ES in general and in each solution component:

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Key new features in LiveCycle ES

LiveCycle ES includes new features that provide a unified environment in which you can design, implement, and automate the documents and processes that you use within your organization and with external customers and stakeholders.

Unified installation and deployment experience

LiveCycle ES is a single product incorporating a series of licensed solution components and common services. You can install, configure and deploy all the elements of the single product at one time. Solution components are automatically integrated on a single server or clustered environment without additional configuration.

The corresponding user documentation is more streamlined and accessible.

LiveCycle Foundation

LiveCycle Foundation provides a common architectural foundation that enables a solution component to participate in processes. LiveCycle Foundation provides a common invocation mechanism that ensures consistent access to components, services, and processes through a Java API, web services, watched folders, Adobe Flex™ Remoting Service, and email. It also provides a consistent set of public APIs and SPIs. Strongly-typed Java™ libraries are also consistent regardless of the transport protocol used (RMI or SOAP).

A number of services are included in LiveCycle Foundation for use with all solution components. For example, the Email service is available for all solution components as part of a business process. For more information about the services available with LiveCycle ES, see the *LiveCycle ES Services* guide at http://www.adobe.com/go/learn_lc_services.

LiveCycle Workbench ES

LiveCycle Workbench ES is a unified, Eclipse-based development tool used for building application assets such as PDF forms, form guides, processes, output templates, components and Flex applications.

Workbench ES includes the following features:

- Ability to create abstract processes. Support for common BPMN constructs such as swim lanes, pools and activities.
- Support for events includes defining business events (such as order cancelling), and handling exceptions, such as timeouts.
- Usability features such as snap-to-grid, cut-copy-paste, fit-to-width or height, disconnect routes and connect to another activity and display only edited route names
- Connectivity to the LiveCycle ES server through HTTP(S) or SOAP, making enterprise deployment easier by removing the RMI and application server dependencies that existed in previous versions.
- Integration with an out-of-the-box LiveCycle ES repository or with various ECM systems to access and manage forms, fragments, documents, images, and XML schemas used in business processes.

Integrated repository

Workbench ES integrates with an out-of-box LiveCycle ES repository, or it can be configured with various ECM systems to simplify managing forms, fragments, images, components and XML schemas.

Migration and deployment tools

Workbench ES enables the export of applications into LiveCycle ES archive files that you use to migrate the LiveCycle ES application from a development environment to a staging or production environment. Workbench ES automatically exports all dependent artifacts including forms, fragments, and processes, into the LiveCycle ES archive file.

LiveCycle ES SDK

The LiveCycle ES SDK provides tools for programmers who plan to develop custom services to run on LiveCycle ES and client applications for invoking services.

Programmer tools include reference and task-based documentation to enable programmers to use the Java APIs, WSDLs, and LiveCycle Remoting to programmatically interact with services. Also included are complete Javadoc documentation and samples for developing custom services and applications as well as customizing the Workspace ES and form guide interfaces.

For more information about developing client applications using the APIs and LiveCycle Remoting, see the LiveCycle ES SDK Help at http://www.adobe.com/go/learn_lc_programming.

Form guides

Form guides combine the functionality of Flex Rich Internet Applications (RIA) and PDF forms so that you can create wizard-like, interview-style interfaces for forms using Adobe Flash® technology. Form guides facilitate data capture by making form filling intuitive for users. At the same time, it maintains a document of record form for your organization.

LiveCycle Workspace ES

LiveCycle Workspace ES provides an intuitive Flex-based user experience for initiating and participating in forms and processes based on LiveCycle ES. It includes Flex components, CSS templates and user interface source code to allow customers to customize and extend Workspace ES.

Upgrade from LiveCycle 7.x

The upgrade framework that allows you to upgrade to LiveCycle ES is designed to protect your investment in the forms and applications you created for LiveCycle 7.x.

Process Upgrade Tool

After upgrading the LiveCycle 7.x environment by installing and configuring LiveCycle ES, LiveCycle 7.x workflows and run-time data are persisted in the LiveCycle ES database. LiveCycle ES fully supports LiveCycle 7.x workflows, which can continue to operate without modification. However, to take advantage of new features that LiveCycle ES services provide, you can upgrade workflows so that QPAC-based actions are replaced with equivalent LiveCycle ES service operations.

Because LiveCycle ES supports LiveCycle 7.x workflows, you can upgrade workflows at any time. The Process Upgrade Tool is a wizard-like interface that steps you through the upgrade one process at a time. The tool can automatically upgrade all QPACs that were included with LiveCycle Workflow SDK 7.x. After you define how the upgrade should be performed, the tool supports the upgrade of any custom QPACs that you have developed.

New platform support

LiveCycle ES supports additional platform combinations and updated application server versions. For complete information about the new platform support, see *Preparing to Install LiveCycle ES* at http://www.adobe.com/go/learn_lc_prepareInstall.

What's new in LiveCycle Process Management ES

LiveCycle Process Management ES offers the following new features:

- Enables PDF forms, form guides, and Flex applications to be used within human activities.
- The User service provides the ability to set XPath expressions on all variables such as instructions, deadlines, escalations, and more.

Process Management ES also includes Workspace ES, a Flex-based application that lets users initiate and participate in forms and processes. Workspace ES includes the following features:

- Support for different types of forms including Adobe Acrobat® and XDP forms rendered as PDF, HTML, and form guides
- Ability to route Flex applications
- Search templates to enable end users to find and display specific tasks and processes.
- Ability to track processes and current status.

What's new in LiveCycle Business Activity Monitoring ES

LiveCycle Business Activity Monitoring ES offers the following new features:

Dashboards: Easy-to-use interface provides continuous visibility into business information, and lets you customize the way you view and handle this information:

- Drill down to detailed information using the geographic dashboard object, which integrates with Google Maps
- Set public watch-points on dashboards that are accessible by others
- View plans on tables
- Dashboard foldering enables processes to be contained in auto-generated dashboards
- Embed objects in Flex applications through support for the JSR 168 portlet specification.

Analytics server: Provides root-cause analysis, with which you can drill into data warehouse information at runtime:

- Display filtered data in table form based on drill-points and dimensions.
- Select table columns, and the Analytics server maintains that view for future analysis.
- Alleviates the need to replicate detailed fact data in the streaming data store.
- Pre-fetch context data so it can be cached prior to an event, when context data retrieval performance is critical and memory is not constrained.

Improved installation: Business Activity Monitoring ES is integrated with the overall LiveCycle ES installation framework for an improved installation and configuration experience. It can now be installed using the JBoss® Turnkey installation method offered for deployment on Microsoft® Windows®. Business Activity Monitoring ES operates within the same Java 2 Platform, Enterprise Edition (J2EE) container as other LiveCycle ES solution components.

What's new in LiveCycle Data Services ES

LiveCycle Data Services ES offers the following new features:

Integrate rich Internet applications (RIAs) with your J2EE infrastructure: You can build RIAs with automatic client-server data synchronization, high-performance data paging, and conflict management. Data Services ES also integrates Flex RIAs with J2EE applications and provides remote procedure calls (RPC), messaging, and data synchronization.

Support for LiveCycle ES application integration: You can integrate Flex applications with LiveCycle ES applications through J2EE, web services, XML/REST, and LiveCycle ES processes deployed in LiveCycle Foundation. Integration features include the Remoting and Proxy services:

- LiveCycle Remoting Service lets Flex clients directly call operations on LiveCycle Foundation services without going through the LiveCycle Foundation web services layer or through a standalone Data Services ES server instance. This specialized feature is based on the standard Data Services ES remote object feature.
- Proxy service lets Flex clients call SOAP-compliant web services and remote HTTP services, which are services you call using standard HTTP requests and responses. By incorporating the Proxy service in LiveCycle Foundation, you do not need to configure a separate web application to work with web services or HTTP services.

Real-time data push to web applications: You can extend enterprise messaging systems, such as Java Message Service (JMS) or Presence, to Flex clients to support real-time data push-to-web applications.

PDF document from Flex applications: You can generate PDF documents that include graphical assets from Flex applications, such as charts and graphs.

Other new features in Data Services ES include the following:

- Native integration with Hibernate and Spring
- Control for per-client Quality of Service (QoS) and conflate message data
- Integration of Flex applications with JSR-168 compliant portals with WSRP application deployment
- Off-line message caching
- Runtime service configuration
- JSP tags for working with MXML in JavaServer Pages™ (JSP)
- Support for direct interaction with SQL database management systems
- Support for AJAX client access to the Data Management Service

What's new in LiveCycle Designer ES

LiveCycle Designer ES is available as a stand-alone product, bundled with Acrobat Professional, and also with Workbench ES, as part of LiveCycle ES.

In Workbench ES, Designer ES becomes part of the integrated development environment (IDE) where you can model, create, manage, and automate business processes and forms. In Workbench ES, you manage forms and resources using the repository.

The stand-alone product also lets you create, manage, and automate business processes and forms. With Acrobat Professional, users can consolidate the data they receive from the people filling the form using Adobe Reader®.

LiveCycle Designer 8.0 was bundled with Acrobat Professional 8.0. Some new features were introduced in that release, and are also available in LiveCycle Designer ES, which is version 8.1.

For more information about LiveCycle ES, go to the Adobe documentation website at http://www.adobe.com/go/learn_lc_documentation and navigate to the *LiveCycle ES Overview*.

New in LiveCycle Designer 8.0

The following features were introduced in LiveCycle Designer 8.0, which is available as a bundle with Acrobat Professional 8.0. These features are available now also in Designer ES 8.1:

Import PDF documents as background artwork: You can import a PDF document as background artwork to maintain the original layout and appearance or import the document as editable content. If you import a PDF document that was created in Acrobat as background artwork and it contains form fields, Designer ES converts those fields to the corresponding library objects. You can then edit any interactive objects and place new library objects on top of the artwork.

Spelling checker: The new spelling checker lets you check the spelling of text as you type or perform a global spell-check when you complete a form design. In addition, spelling options are available for selecting the items to include in spell-checks and which dictionary to use.

Digital signatures: You may want to apply two types of digital signatures in LiveCycle Designer ES: document signatures and data signatures. Document signatures secure fields and their values. You can apply document signatures to an entire form or a collection of fields. Document signatures apply to buttons, check boxes, date/time fields, decimal fields, drop-down lists, image fields, list boxes, numeric fields, paper forms barcodes, password fields, radio buttons, other document signature fields, and text fields. Data signatures secure the form data and guarantee the data integrity during transmission. Data signatures can apply to the form data only or to the entire submission, including any attachments such as annotations, document signatures, or PDF documents.

Digital signatures for XML data: You can set signing certificates, issuer certificates, and certificate policy object identifiers (OID) to XML data digital signatures.

New in LiveCycle Designer ES 8.1

Designer ES offers these new features:

Fragments: Reusable components of a form or document such as a group of form fields or a script object. When a fragment is updated, the form and document templates that reference it are automatically updated. Data values can be used to select from a group of fragments to allow for personalized document generation. Fragments can be stored in the file system when using Designer ES or in the LiveCycle ES repository when using Designer ES through the LiveCycle Form Design perspective in Workbench ES.

Support for form guides: Designer ES allows you to create a wizard-style interface for a form using Flash technology. See "Form guides" on page 5.

Supports XForms import: Designer ES now imports XForms and converts them to XDP format. XForms is a W3C recommendation for form field and binding definition. The XForms model can be extracted from HTML, XHTML, XFDL, and XML host document formats.

Print output features: Templates created using Designer ES work with LiveCycle Output ES to merge data and print to PCL and PostScript® laser printers and Zebra Label printers directly from the LiveCycle ES server. Form designs can be configured for double-sided printing (duplexing). You can also control paper trays documents are printed from. To assist in testing document generation, you can generate sample data and print the resulting document directly to a printer. Designer ES supports the following new print output features:

- Duplex/Simplex control
- Paper Tray selection
- Zebra Font Support, additional barcodes and RFID labels
- Additional 2D barcodes for all formats, including PDF417, QRCode, DataMatrix, and others

PDF print options: PDF print options let you specify print settings for a PDF form when you design the form, instead of requiring end users to correctly configure the print job. You can specify the number of copies to be printed, whether to use duplex printing, and whether to open the print dialog box automatically on opening the form.

Target Version Warning: You can design a form to open in a specific version of Adobe Reader or Acrobat. Designer ES warns if the form author is attempting to use any features that are not supported in the target version of Adobe Reader or Acrobat. This facilitates designing forms for older versions of Adobe Reader and Acrobat.

What's new in LiveCycle Forms ES

LiveCycle Forms ES offers the following new features:

Support for form guides: Forms ES includes a rendering option for form guides based on Flash technology. (See "Form guides" on page 5.) Multiple form guides are allowed for each XDP to enable multiple views for a single form.

Support for fragments: Forms ES enables fragment rendering at runtime for PDF forms, HTML forms and form guides. Fragments are referenced in the Designer ES template to allow for single changes to affect multiple forms at a time. Script fragments are also available. You can use Forms ES to choose from a set of fragments which is used for a particular rendering.

New PDF manipulation APIs: New APIs give you the ability to package multiple forms into a single PDF form package. You can assign global fields for the PDF form package, requiring the users to enter data only once for fields that are common.

XHTML accessibility compliant forms: The Forms ES XML template enables rendering forms in XHTML in compliance with W3C's Web Content Accessibility Guidelines (WCAG) 1.0 Level AA (accessibility recommendation). For more information, see Web Accessibility Initiative (WAI) on the W3C website at: http://www.w3.org/WAI/.

File attachment handling: Forms ES supports file attachments for HTML and PDF forms. You can now add attachments to the PDF form before it is presented to the user, and also enable users to add or replace attachments to be submitted with the form.

What's new in LiveCycle Output ES

LiveCycle Output ES was previously available as LiveCycle Print. Output ES offers the following new features:

- Output ES is no longer an add-on to LiveCycle Forms; it now supports final form (non-interactive) PDF documents in addition to print format document generation.
- Allows print format documents to use printer features such as selecting paper trays, specifying duplex printing and specifying stapling. An XDC editing tool allows you to create device profiles for different printer models.
- Formats single documents and batches of documents, as well as document packages made up of multiple templates in all formats. Output ES supports form templates that include form fragments.
- Converts interactive PDF form, PDF artwork forms, and PDF Acrobat forms to final form PDF documents
- Supports PDF/A (1A & 1B), which is an ISO standard for PDF document archiving.
- Supports the combination and manipulation of PDF files.
- Converts PDF files to PostScript and TIFF formats.
- Supports document formatting for more languages, including Thai, Hebrew, Arabic, and Vietnamese.
- Includes extended Zebra Label support to include more barcodes, access to Zebra standard fonts, and RFID labels.

What's new in LiveCycle Digital Signatures ES

LiveCycle Digital Signatures ES offers these new features:

Signing operation: The signing operation lets you control several aspects of digital signatures used in a document. When designing a PDF document, you can define the following items:

- The appearance of the digital signature when it displays on the document
- The signature algorithm used for signing
- The properties set in signature profiles used while signing
- Embedded revocation checks in the signature field property.

Signature field creation: Digital Signatures ES supports seed values through the Signature APIs that are defined in the PDF 1.7 specification. You can create these using LiveCycle Designer 8.0 or Designer ES 8.1.

Signature validation: Digital Signatures ES supports several new signature validation features:

- Validation of XML digital signatures
- Configuration of revocation check failover from OCSP to CRL and CRL to OSCP
- Enhanced Signatures Status information that can be used when developing business processes
- RFC3280-compliant validation, and support for specifying path validation options at run time
- Per invocation control of the verification time and revocation check styles which are used for revocation checks (rather than a global setting).

TrustStore configuration: Digital Signatures ES now uses the TrustStore repository as the database in which security data is stored. Trust chains are dynamically added to the TrustStore repository without requiring a restart of the server.

New API functionality: The following new APIs enable granular control over signature processing: ClearSignature(), ClearSignatureField, RemoveSignatureField. The Signing Profile can also be controlled using the API (seed values). You can also use the API to specify a policy OID for each trust anchor.

Added standards compliancy: Digital Signatures ES now supports the following standards:

- XML digital signature standards (http://www.w3.org/TR/xmldsig-core)
- SHA-2 family of encryption algorithms
- RFC3280 certificates and certificate revocation lists

Support for FIPS mode: You can enable the Federal Information Processing Standards (FIPS) option. The FIPS option restricts data protection to FIPS 140-2 approved algorithms using the RSA BSAFE Crypto-J 3.5.2 encryption module with FIPS 140-2 validation certificate #590

Configure service attributes in a web-based interface: You can configure Signature service attributes in the Archive Administration area of LiveCycle Administration Console. For example, you can set up watched folders and endpoints for service invocation, configure remote APIs and parameters for processing.

What's new in LiveCycle PDF Generator ES

LiveCycle PDF Generator ES offers the following new features:

- Ability to convert from OpenDocument formats (ODS, ODW, ODP) to PDF
- Support for creation of PDF/A from many file formats, including OpenDocument, TIFF, AutoCAD, Word, and PostScript
- Assemble multiple PDF files together into a single document or PDF Package
- Ability to modify the contents of a PDF file through resizing, repagination, adding headers and footers, indexes and table of contents
- Generates Optical Character Recognition (OCR) PDF from PDF
- Converts PDF to image formats or PostScript.

What's New in LiveCycle Reader Extensions ES

LiveCycle Reader Extensions ES offers the following new features:

Improved performance with Reader Extensions ES and Adobe Reader:

- Adobe Reader 8.0 reduces the size of Reader-extended PDF files.
- Adobe Reader 7.0.8 and later resolves the problem in which file opening is delayed when Adobe Reader is disconnected from the Internet.
- The Reader Extensions ES algorithm is faster.

Online commenting: This usage right is now included in standard Reader Extensions ES.

Flash-based user interface: Simplifies the way you apply usage rights to PDF documents, and includes the following features:

- Add batches of files for processing when you are working with volume a large quantity of files, but do not plan to build a LiveCycle ES orchestration.
- View the credential information and the specific rights that have been applied to a document.
- Use multiple credential files and view the credential type and expiration date of credentials.

Compatibility between Adobe Reader and Reader-extended PDF documents:

- PDF files that are Reader-extended with Reader Extensions ES are compatible with Adobe Reader 7.0 and later.
- PDF files that target Adobe Reader 5.1.x (Adobe Document Server Reader Extensions 6.0) or Adobe Reader 6.x (Adobe Reader Extensions Server 6.1 or LiveCycle Reader Extensions 7.2 with PDF 1.5 files) can still be processed (filled in or data extracted) with LiveCycle ES. However, Reader Extensions processing must have been completed with the version of the Reader Extensions server with which it was originally Reader-extended before introducing into Reader Extensions ES.
- Support for files from Adobe Document Server Reader Extensions 5.x and 6.x; targeting Adobe Reader 5.1.x will not be supported on the desktop in Adobe Reader 9.0.

What's New in LiveCycle Barcoded Forms ES

LiveCycle Barcoded Forms ES offers the following new features:

- Supports 1D barcodes
- Supports a variety of barcode encodings, including Shift_JIS, BigFive, and others
- USB key no longer required to use Barcoded Forms Decoder
- Provides APIs that enable developers to programmatically decode and convert barcoded data
- Uses watched folders (one of the various invocation mechanisms available in LiveCycle Foundation), which administrators can configure from the LiveCycle Administration Console

What's new in LiveCycle Rights Management ES

LiveCycle Rights Management ES offers the following new features:

- Introduces *policy sets* to help administrators manage document policies. Policy set coordinators can organize policies that have a common business purpose into policy sets. Policy sets let administrators control and administer multiple policies simultaneously.
- Delivers scalability and performance improvements including enhanced directory synchronization performance as part of LiveCycle Foundation.
- Provides two-factor authentication using smartcards with Adobe Reader 8.0.
- Enhances external authorization, enabling another system to determine a user's access to a document or file. For example, your organization may have a Content Management System (CMS) in which all of your documents are stored. Your CMS already has Access Control Lists (ACLs). The external authorization feature enables Rights Management ES to use the ACLs specified in your CMS, eliminating the need to keep ACLs in sync with Rights Management ES policies.
- Supports the ability to initiate a process in response to a particular event, such as a request to print a document.
- Provides extensible events, which enable implementors of client applications to define application-specific events and load these new event definitions onto the LiveCycle ES server.
- Implements policy features such as applying policies or removing policies as part of the Rights Management service instead of using a separate component that was needed in the previous version.
- Enhances security, including certified plug-in mode for Acrobat. That is, Acrobat will only load certified plug-ins when opening a policy-protected document. This blocks nefarious third-party plug-ins.
- Supports role-based administration. Administrative tasks are now divided into different roles. For example, one administrator may be able to administer policies but not server configurations. Another administrator may only be able to view the audit logs and other server configuration settings.

What's new in LiveCycle ES connectors for ECM

LiveCycle ES connectors for ECM offers the following new features:

Support for an external content repository in Workbench ES: With LiveCycle ES connectors for ECM, developers can connect Workbench ES to their enterprise content repository, develop LiveCycle ES applications using content assets in the repository, and manage them directly within a single development environment.

ECM content repository services for LiveCycle ES applications: LiveCycle ES connectors for ECM provide content repository services, including content library services, version control, and secure access, to all LiveCycle ES solution components and services. LiveCycle ES connectors for ECM provides connector components that let you rapidly develop applications that produce and consume contents and their metadata stored in ECM systems.

Out-of-the-box support for EMC Documentum and IBM FileNet: LiveCycle ES includes Adobe LiveCycle ES Connector for IBM® FileNet and Adobe LiveCycle ES Connector for EMC Documentum.

Other new features in LiveCycle ES connectors for ECM include these:

- Unintrusive development ensures that LiveCycle ES connectors for ECM preserve existing content schemas defined in an ECM system. By protecting the investment made in the ECM infrastructure, customers have choices for designing schemas to achieve higher performance and scalability of their ECM application.

  The connector services use the data model provided by an ECM system to store the content. They no longer rely on the custom model (which extends the basic data model provided by the ECM system) to save the content. This provides major benefits in porting the content from one ECM system to another because they can be directly exported and imported between systems.
- Expanded user interface choices allow you to call invocation methods within the ECM user interface, portals, Flex applications, desktop applications, or Workspace ES.
- Unified invocation methods (web services, watched folders, email, Java, and LiveCycle Remoting) for calling all LiveCycle ES features.

  Developers can programmatically invoke the content repository connector services and repository provider services using web services, LiveCycle Remoting, and Java APIs. They can also invoke the content repository connector services using watched folders and email invocation methods, which are available for calling these services within LiveCycle ES processes developed in Workbench ES.
- Flexible deployment enables the ECM system to deploy to a server running a different operating system and application server than the platform on which LiveCycle ES is running.